Supporting Information for:

Combining Electrocatalysts and Biobased Adsorbents for Sustainable Denitrification

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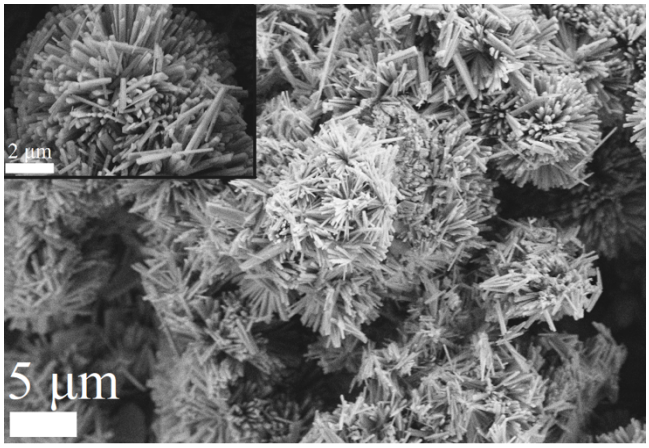


Figure S1. SEM images of $Cu_2(OH)_3NO_3$ NRs. Inset: high magnification image.

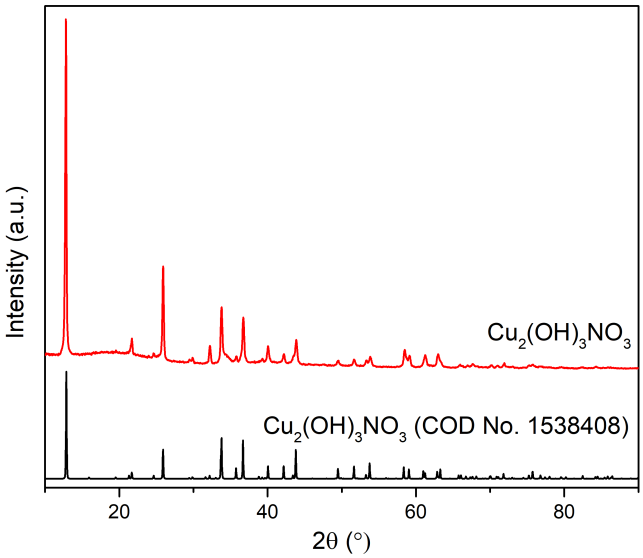


Figure S2. Experimental and simulated powder XRD patterns of $Cu_2(OH)_3NO_3$ (COD No. 1538408).

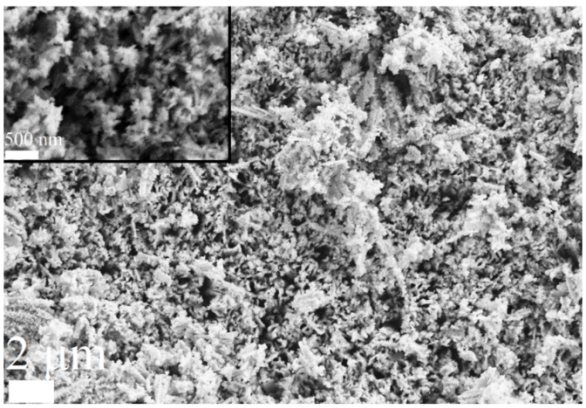


Figure S3. SEM images of CuO NRs. Inset: high magnification image

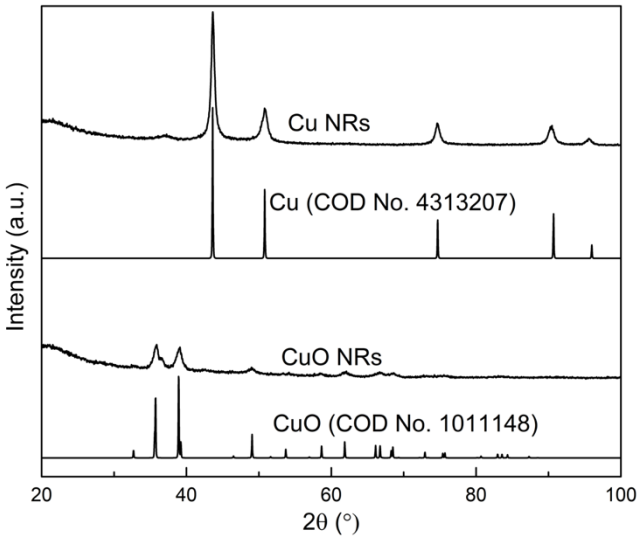


Figure S4. Experimental and simulated powder XRD patterns of CuO NRs (COD No. 1011148) and Cu NRs (COD No. 4313207).

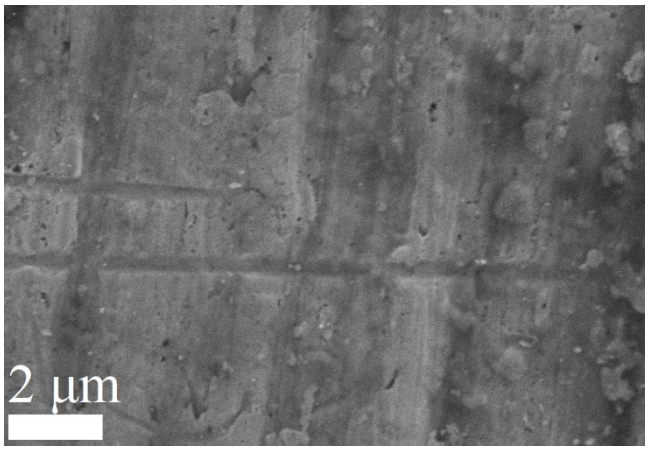


Figure S5. SEM image of pristine Cu.

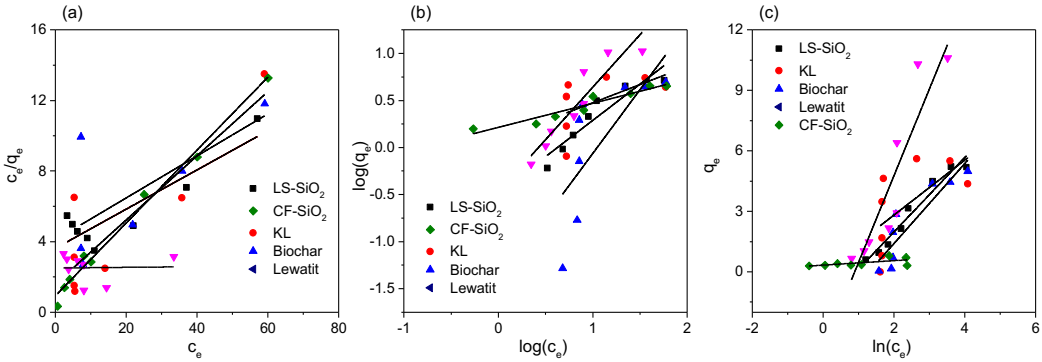


Figure S6. Fitting of (a) the Langmuir, (b) Freundlich and (c) Temkin isotherm models of adsorption of ammonium ions onto LS-SiO_2, CF-SiO_2, KL, Biochar and Lewatit at 22 °C, at presence of 0.1M Na_2SO_4 electrolyte (time of contact: 2 h; initial concentration of ammonium ions: 5 – 80 $mg \cdot L^{-1}$).

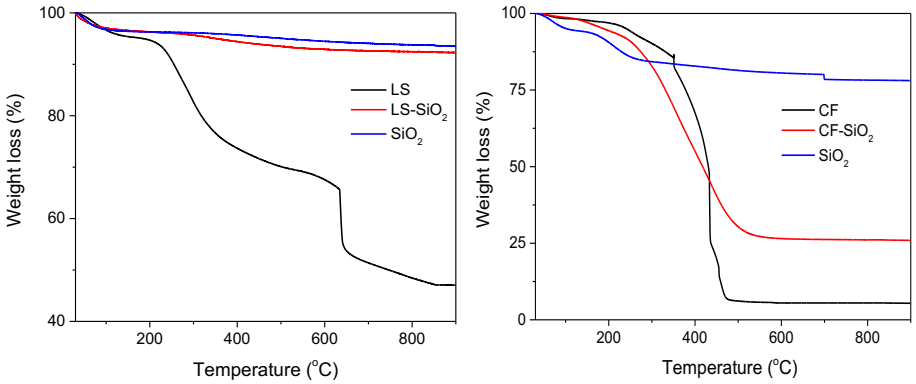
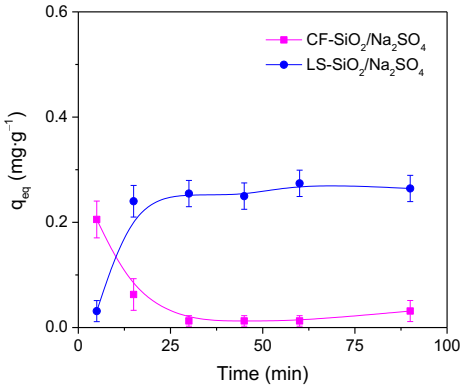


Figure S7. TGA curves of thermal decomposition in O_2 atmosphere for LS-SiO_2, CF-SiO_2, initial lignins and silica. (Reprinted from our previous papers Budnyak et al. *ACS Sustainable Chem. Eng.* **2020**, *8*, 16262; Budnyak et al. *Nanomaterials* **2018**, *8*, 950.)



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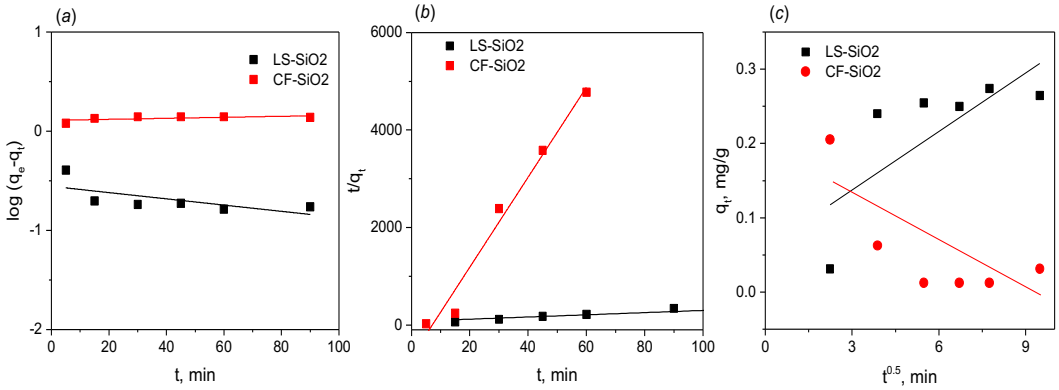
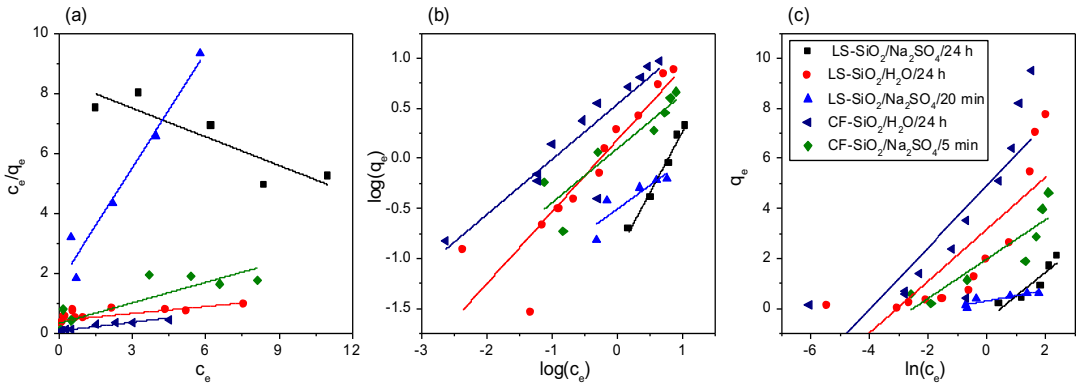


Figure S9. (a) Pseudo-first order plots, (b) pseudo-second order plots and (c) intraparticle diffusion plots for ammonium ions adsorption kinetics by LS-SiO_2 and KL-SiO_2.



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